

Serial No. 09/996,183

Amendments to the Claims:

Please amend claims 77 and 93, as shown below.

Claims 1-30 (canceled)

Claims 31-50 (withdrawn)

Claims 51-76 (canceled)

77. (currently amended) A method of making providing a resistive heater having a controlled resistivity, having a substrate, a resistive heating layer, and a power source, comprising the steps of:

determining a desired resistivity of said resistive heater layer;

selecting a metallic component and at least one reactant gas;

selecting a proportion of said metallic component and said at least one reactant gas, so that when combined said desired resistivity of said resistive heater layer results;

promoting reaction of said metallic component and said reactant gas, thereby combining said metallic component and said reactant gas, resulting in a free metal and reaction product;

depositing said combined free metal and reaction product on said substrate to form said resistive heater layer having said desired resistivity; and

providing power to said resistive heater layer.

78. (previously presented) The method of claim 77, wherein said reaction product is one or more oxide, nitride, carbide, and/or boride derivatives of said metallic component.

79. (previously presented) The method of claim 77, wherein said reactant gas comprises one or more of oxygen, nitrogen, carbon, and boron.

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80. (previously presented) The method of claim 77, wherein said step of promoting reaction of said metallic component and said reactant gas further comprises the steps of:

melting said metallic component to produce a stream of molten droplets; and

flowing said at least one reactant gas over said molten droplets, thereby resulting in said reaction of said metallic component and said reactant gas.

81. (previously presented) The method of claim 77, further comprising the step of providing an electrically insulating layer between said substrate and said resistive layer.

82. (previously presented) The method of claim 81, further comprising the step of providing an adhesion layer between said insulating layer and said substrate.

83. (previously presented) The method of claim 82, wherein said adhesion layer comprises nickel-chrome alloy or nickel-chrome-aluminum-yttrium alloy.

84. (previously presented) The method of claim 77, further comprising the step of providing a heat reflective layer between said resistive heater layer and said substrate.

85. (previously presented) The method of claim 84, wherein said heat reflective layer comprises zirconium oxide.

86. (previously presented) The method of claim 77, further comprising the step of providing a ceramic layer superficial to said resistive heater layer.

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87. (previously presented) The method of claim 86, wherein said ceramic layer comprises aluminum oxide.

88. (previously presented) The method of claim 77, further comprising the step of providing a metallic layer superficial to said resistive heating layer.

89. (previously presented) The method of claim 88, wherein said metallic layer comprises molybdenum or tungsten.

90. (previously presented) The method of claim 77, wherein said metallic component is titanium (Ti), silicon (Si), aluminum (Al), zirconium (Zr), cobalt (Co), nickel (Ni), iron (Fe), or alloys thereof.

91. (previously presented) The method of claim 77, wherein said reaction product is one or more nitride, carbide, and/or boride derivatives of said metallic component.

92. (previously presented) The method of claim 77, wherein said reaction product is two or more oxide, nitride, carbide, and/or boride derivatives of said metallic component.

93. (currently amended) A resistive heater having a controlled resistivity, comprising:

a resistive layer having a controlled resistivity, said resistive layer further comprising a metallic component and one or more reaction products, resistivity of said resistive layer being

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a combined resistivity of said metallic component and said one or more reaction products, resistivity of said reaction products being controlled by composition of a reactant gas and said metallic component that are combined to create said resistive layer; and
a power source coupled to said resistive layer.

94. (previously presented) The resistive heater of claim 93, wherein said reaction product is one or more oxide, nitride, carbide, and/or boride derivatives of said metallic component.

95. (previously presented) The resistive heater of claim 93, wherein said reactant gas comprises one or more of oxygen, nitrogen, carbon, and boron.

96. (previously presented) The resistive heater of claim 93, further comprising an electrically insulating layer located between said substrate and said resistive layer.

97. (previously presented) The resistive heater of claim 96, further comprising an adhesion layer located between said insulating layer and said substrate.

98. (previously presented) The resistive heater of claim 97, wherein said adhesion layer comprises nickel-chrome alloy or nickel-chrome-aluminum-yttrium alloy.

99. (previously presented) The resistive heater of claim 93, further comprising a heat reflective layer located between said resistive layer and said substrate.

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100. (previously presented) The resistive heater of claim 99, wherein said heat reflective layer comprises zirconium oxide.

101. (previously presented) The resistive heater of claim 93, further comprising a ceramic layer superficial to said resistive layer.

102. (previously presented) The resistive heater of claim 101, wherein said ceramic layer comprises aluminum oxide.

103. (previously presented) The resistive heater of claim 93, further comprising a metallic layer superficial to said resistive layer.

104. (previously presented) The resistive heater of claim 103, wherein said metallic layer comprises molybdenum or tungsten.

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